DOCUMENT RESUME

ED 242 950 CE 038 799

AUTHOR Bowe, Frank
TITLE Employment Trends: 1984 and Beyond. Where the Jobs Will Be.
INSTITUTION Arkansas Univ., Fayetteville. Arkansas Rehabilitation Research and Training Center.
SPONS AGENCY National Inst. of Handicapped Research (ED), Washington, DC.
PUB DATE 84
GRANT G008300010/01
NOTE 39p.
AVAILABLE FROM Publications Dept., Arkansas Rehabilitation Research and Training Center, P.O. Box 1358, Hot Springs, AR 71902 (#1231, $5.00).
PUB TYPE Viewpoints (120)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Ability; Accessibility (for Disabled); Adults; Career Choice; Careers; Deinstitutionalization (of Disabled); *Disabilities; *Economic Factors; Educational Needs; Employer Attitudes; *Employment Patterns; Employment Potential; *Employment Projections; *Exceptional Persons; *Futures (of Society); Individual Characteristics; Job Skills; Labor Needs; Normalization (Handicapped); Occupational Mobility

ABSTRACT

This monograph identifies the five broad areas in which the author believes disabled people are especially likely to find employment in the years ahead. It answers, as far as can be foreseen, the question, "Where are the jobs?" The book is organized into six chapters. In the first chapter, the author examines social science research on the job market and gives some reasons why predicting employment trends is so difficult. In the second chapter, he presents his view on what is not going to happen in the next 10 years or so. For example, he does not believe that computer repair and programming occupations are going to increase significantly. Chapter 3 explores the area of "pocket marketing," a theory that suggests that even in times of high unemployment, areas of opportunity exist, whether in certain geographic areas or in meeting specific unmet needs. These "pockets" could generate jobs for disabled people. The fifth chapter details the five areas of opportunity that the author predicts will provide jobs for handicapped people. The areas explained and focused on are general services, special services, sales, information services, and entrepreneurship. In the fifth chapter, the author matches these five areas to the personal characteristics needed for each type of work. The final chapter offers suggestions for actually making the scenario happen. The chapter outlines the kinds of steps that need to be taken by disabled people themselves, service agencies, other government agencies, and employers in order to put disabled persons to work in the five areas. (KC)

ED242950

Employment Trends: 1984 and Beyond

Where the Jobs Will Be

Frank Bowe

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

CE038799

Arkansas Rehabilitation Research and Training Center
University of Arkansas
Arkansas Rehabilitation Services
1984

The contents of this book were developed under a research and training center grant (G008300010/01) from the National Institute of Handicapped Research, Office of Special Education and Rehabilitative Services, Department of Education, Washington, DC 20202. However, those contents do not necessarily represent the policy of that agency, and you should not assume endorsement by the Federal Government.

All programs administered by and services provided by the Arkansas Research and Training Center in Vocational Rehabilitation are rendered on a nondiscriminatory basis without regard to handicap, race, creed, color, or national origin in compliance with the Rehabilitation Act of 1973 and Title VI of the Civil Rights Act of 1964. All applicants for program participation and/or services have a right to file complaints and to appeal according to regulations governing this principle.

About the Author

Frank Bowe, Ph.D., L.L.D., in fifteen years of work in rehabilitation and special education, government, and private business, has developed a broad range of interests which are reflected in his books. **Computing and Special Needs,** (Sybex Computer Books, 1984) his latest, is the first book-length treatment of how personal computers can help handicapped and older persons. **Handicapping America** (Harper & Row) introduced many thousands of readers to the legislative, regulative, and social aspects of disability in our country. **Rehabilitating America** (Harper & Row) looked at the economics of age and disability. **Comeback** (Harper & Row) profiled six severely disabled individuals in this country and abroad, seeking the reasons for their remarkable success in overcoming disability. While working for the Arkansas Rehabilitation Research and Training Center at the University of Arkansas, he authored three books—**Demography and Disability, The Business-Rehabilitation Partnership,** and **Employment Trends**—which explore the potential for placing more disabled persons into meaningful jobs.

A Visiting Professor with the R&T Center, Dr. Bowe resides on Long Island's south shore with his wife of ten years and their two daughters.

Preface

Employment Trends: 1984 and Beyond represents the third book Frank Bowe has written while working for the University of Arkansas Rehabilitation Research and Training Center. In **Demography and Disability,** his first, he interpreted complex Census Bureau figures into easy-to-read charts that helped us to better understand the nation's population of disabled adults. With Jay Rochlin, AT&T Human Resources Manager, he then wrote **The Business-Rehabilitation Partnership,** which offered rehabilitation practitioners the benefit of their experiences in business by suggesting ways in which rehabilitation could create and maintain a true "partnership" with business to benefit disabled job seekers and employers. **Employment Trends** identifies five broad areas in which Dr. Bowe believes disabled people are especially likely to find employment in the years ahead. It answers, as best as possible, the question: "Where are the jobs?"

The ARR&TC continues its five-year program of research on employment of persons with disabilities. We stand ready to serve the profession throughout the Southwest and the nation. As director of the Center, I welcome your inquiries.

Vernon L. Glenn
Director

Table of Contents

	Page
Chapter One: Into the Breach	1
Chapter Two: What is Not Going to Happen	5
Chapter Three: Pocket Marketing	11
Chapter Four: Five Areas of Opportunity	17
Chapter Five: Personal Characteristics	23
Chapter Six: Making it Happen	29
Footnotes	33
References	37

Chapter One

Into The Breach

In writing a book about "where the jobs will be," it is necessary to make many projections, predictions, and prognostications. These represent my best judgments, yet even as I make them, I know that many of them will be wrong. Some will be so embarrasingly erroneous that I will be strongly tempted to ask the university to recall copies of the book so I can wipe the egg off my face.

It's probably not good to begin a book with such diffidence. If there is such uncertainty about what I'm writing, why write it at all? Good question. I'm writing the book because I'm convinced we can put three million disabled people to work before the decade is out—people who are not working now. I think we can do it by taking some specific, fairly simple, steps between 1984 and 1990.

Each year, I give some forty or fifty speeches. At the conventions in which I speak, I encounter some 15,000 to 20,000 people annually. The question they most often ask, despite their diversity of interests, is: "Where are the jobs?" Parents of handicapped children ask that question. Special educators do, too. I hear that question from vocational-technical school administrators, rehabilitation counselors, career educators. I hear it from disabled youth and adults. I hear it in the halls and lobbies of hotels coast-to coast from people who sell educational audio-visual equipment, people who serve as consultants to special education agencies, people who run those agencies, and people who run the colleges and universities that use the audio-visual equipment to train the people who run the educational agencies.

The reason they're all so interested is not difficult to understand—the answers will affect what they do. Some of these people, particularly public agency officials, school administrators and parents, are looking fairly far down the road. Decisions they make now will affect the lives of handicapped youth three, five, even ten years from now.

Also, they're asking where the jobs are because they're nervous. High unemployment has become a periodic phenomenon; almost one-third of all working-age Americans have been unemployed at one point or another during the past half-decade or have someone close to them who was. With sophisticated technology coming so fast, and doing so many jobs so well, people feel threatened.

They're asking where the jobs are because they understand that the labor-market supply and demand information they get in the general media does not necessarily reflect the situation that will be faced by people with handicaps. For example, one may see a story in the **Wall Street Journal** about the phenomenal growth of sales jobs in recent years, yet come away from that story with a nagging sense of unease: will people with physical, sensory and other disabilities be able to get those kinds of jobs?

When you think about it for a moment, "Where will the jobs be?" is a simple question that turns out to be very difficult to answer. In one case, it's a 40-year-old former **Chicago Tribune** pressman who is asking the question. He wonders "Where are jobs that I can do, or qualify to do, within the next few months?" The next person to inquire may be the mother of a 12-year-old child with a learning disability; the mother's concern has to do with secondary and post-secondary educational concentrations most likely to lead to stable and rewarding work for her daughter ten years down the road. The pressman and the mother are having to consider gyrations in interest rates, inflation, white-collar productivity, the strength of the dollar, the fiscal policy popular in Washington at any given point, what the Japanese are selling lately, regional and seasonal variations in employment patterns around the country and in different sectors of the economy, and a host of other factors. Also to be considered are projections about the relative cost and supply of reasonable accommodation aids and devices, attitudes toward disabled persons among employment interviewers, the adequacy of public income maintenance support for people not in the labor force, Federal and state employment incentives for employers such as the Targeted Jobs Tax Credit program, and a myriad of other matters.

To answer that simple-sounding four-word question ("Where are the jobs?"), then, requires wading through a veritable maze of facts, figures, assumptions and even some wild guesses.

Let me make that concrete. For its October 1979 special supplement, "Careers in the 1980's," the staff of the Sunday **New York Times** assembled the nation's top experts in labor economics and an array of related fields. As **The Times** reported, Vermont, almost alone among all the New England and Mid-Atlantic states, would enjoy explosive growth in the

number of new jobs between 1980 and 1985. In fact, **The Times** predicted that growth in Vermont jobs could come at a staggering 25% clip but surely would be no lower than a robust 10%.

As it happened, smack in the middle of that five-year period, I was asked to speak in Vermont. As I stood up before over 300 people at the Lake Morey Inn, just past the New Hampshire border, on October 13, 1982, to convey to them the considered opinions of **The Times'** august editors, I watched the crowd react with a look of stunned incredulity. As all of us knew, the Federal Department of Labor had announced that preceding Friday that unemployment had hit a post-war high of 10.1% with 11.3 million people out of work. Job growth in Vermont over the past two and one-half years had actually been negative; there were fewer jobs when I spoke than there had been in January 1980.

How, my audience wanted to know, could the experts have been so incredibly misguided? Their faith in the rationality and knowledge of the opinion leaders of our country was shaken to its core.

The answer, of course, is that unexpected things had happened to upset the careful calculations of the experts. There was the not-inconsiderable matter of the worst recession since the Great Depression. There was the pressure upon corporate America to cut costs in order to compete with the Japanese. Interest rates were sky-high, making firms reluctant to invest in new jobs. Mixed in with all of this, unseen at the time, was a major alteration in the very nature of the American economy: were were changing very quickly from a post-industrial economy to what is now known as an "information-age" society. In 1979, when **The Times** collected the views of its selected experts, the term hadn't even been coined.

If all of this is true, what's the point in making predictions at all? That seems to be a reasonable question, and in one sense it probably is. But the fact remains that there are basic forces and factors at work in our economy, as well-concealed as they sometimes seem to be. Vermont will enjoy robust job growth, in fact already is beginning to, for many of the reasons identified by **The Times'** experts four years ago. The events of the intervening years have changed some of the trends, strengthening some and weakening others, so that exact prediction is an unreachable goal. Yet there is much of value in what **The Times** stated. Even with the ever-present threat of unpredictable events, we are better off trying to understand our economy and trying to project where jobs will be than we are with reliance upon sheer guesswork.

So, I'm going to leap into the breach to predict, not only that there will be jobs for people with handicaps who want them, but also what kinds of jobs these will be. This book identifies five (5) broad areas of jobs that disabled people will be filling in the next five to ten years. For each occupation, I'll describe the characteristics which successful workers probably will have. This information is needed by educators, counselors, parents and disabled adults to decide on difficult training, job-seeking and life-style issues. Bearing in mind that some of these projections will be wide of the mark, this book should help disabled people to help themselves.

My earlier books for the university differed greatly from **Employment Trends. Demography and Disability** offered data on the size and characteristics of the nation's population of adults with disabilities. That book drew upon 1981 and 1982 surveys conducted by the U.S. Bureau of the Census. Although some of the information was interpreted and explained, most of the data were fairly objective and reliable; it's not a book about which I have many doubts. Demography, in a very real sense, is destiny. Major shifts in demography beyond those already foreseen are unlikely. They do happen and a good example is the "baby-boom generation" phenomenon. Virtually no demographer expected it,[1] and such major surprises are quite rare. So, I have confidence in **Demography and Disability.**

The Business-Rehabilitation Partnership, too, contained few statements I think will need to be retracted in the next several years. I'm confident about it, especially because AT&T Human Resources Manager, J.F. Rochlin was my co-author. Jay has had almost three decades of experience in business.

Employmet Trends, though, reflects my biases, experience, and philosophy. Someone else might have written **Demography** or **Partnership** and, with fairly minor differences of style and content, come up with rather similar results. The same is not true of **Employment.** So, before we go further, I need to make clear where I'm "coming from," and then you will be able to make the adjustments necessary to judge the information in this book.

First, I am not a Luddite. Advances in technology don't make me fear for people's jobs. I think what we've seen in the past we will continue to see; as machines enable one person to do what two once did, they will also generate demand for new work by the now-displaced worker. Not everyone shares this view. If you do not, treat the prognostications in this book with some care.

Second, planned economies make me very nervous. I am not an advocate of centralized, state-controlled employment programs. Over the years, I've listened, not to Labor Department bureaucrats, but to private businessmen in order to learn about where jobs will be. This book reflects what I've learned. If you've talked to people of different opinions, you may disagree with much that's in this book.

Third, I believe that we, as a nation, will have to find ways to help handicapped people and older Americans to get and keep jobs. I do not see how we can maintain our traditional values while keeping in dependency millions of people who could, and should, work. Sooner or later, I believe, others will come around to this way of thinking. Business will want to hire disabled people and government will want to encourage that. So I am optimistic that jobs will be available for disabled persons. If you are a fan of the socialized economies of Sweden, England and France, you will want to revise downwards the employment projections in this book—disabled people in those countries very rarely work.

Finally, I am very optimistic about the future potential of technology in helping people with disabilities to work. Personal computers today are capable of articulating, in an artificial voice, data appearing on screens; for dyslexic and blind persons in particular, that capability opens up completely new job horizons. Tomorrow's computers will hear; I, for one, will get such a machine and work better because of it. If you are more sanguine about computers, adjust your interpretation of what you read here accordingly.

Chapter Two

What is Not Going to Happen

Over the years, I've found that I have to explain what I **don't** expect to happen before communicating with people about the kinds of jobs I believe handicapped or disabled people will be doing in the next decade or so.

By the time you finish the next several pages, you'll either feel that you are gaining a new perspective on employment trends or suspect that you're really reading a disguised Garry Trudeau cartoon strip.

Massive Computer Jobs

Traveling around the country, I hear rehabilitation practitioners, special educators and vocational-technical school administrators touting computer-programming and computer-repair training for handicapped youth and adults. They point to the news stories projecting great leaps in the percentages of people employed in computer jobs as justification for steering disabled students and clients into these occupations.

"Look" they say, "the Bureau of Labor Statistics in the U.S. Department of Labor predicts that employment in the computer companies will grow twice as fast as the national average over the next ten years. Computer operators, computer repair technicians, computer systems analysts and computer programmers—those are the jobs to shoot for." I even hear[2] some counselors saying that their agencies won't support clients in academic majors in college but will subsidize computer technology courses of study.

First, looking carefully at this widely heralded growth field, consider how computers are made. In Boca Raton, Florida, a small team of engineers designed the hugely popular IBM PC. They used IBM computers to do the machine's configurations. A computer transmitted the product specifications to computer-driven manufacturing units, which were attended by a fairly small staff of workers acting more as monitors than as assembly-line workers. As the new personal computers came off line, they were tested by running a computer program to "debug" them and ensure that they worked properly. The same software and hardware was used to discover why some units failed—and to repair them.

IBM expects to make some two million PC's in 1984, more than the total number produced by all computer manufacturers in the country in 1983. They can only do that by relying upon a highly automated factory set-up. The Boca Raton[3] factory produces a complete PC in just 45 seconds. Few people are employed in that process, compared to the traditional assembly-line operation in Detroit.

Second, the people who work in the factories are not highly unionized as are their peers in auto-assembly shops. Look, for a helpful contrast, at what happened as railroad engines were improved: union rules required that two people remain in the engine cab, even though only one was now needed. Nothing of the sort is happening in computer factories. IBM will never have to attempt to invalidate union contracts. It can automate its factories as much and as fast as it wishes, keeping factory employment down.

Third, look at what is happening to computers themselves. Ten years ago, when I was in graduate school, only highly trained computer programmers knew how to make a computer do what they wanted done; I can keenly remember feeling frustrated as I stood with my stack of IBM cards while a specialist made the machine work for me. Today, my seven-year-old daughter can operate a computer—by herself. Computers are becoming more "user friendly," and this powerful trend reduces the need for sophisticated computer programmers in every office department of every company or organization.

Fourth, look at what's happening to the computer industry. Early in 1983, we had some 150 manufacturers of home and personal computers. By the end of 1984, observers predict, we'll have at most a dozen or so. The smaller[4] ones just can't afford the huge capitalization costs they would need to remain competitive with IBM and Apple: they're being forced out of the market even as the market grows by leaps and bounds. In just 18 short months, Adam Osborne took his fledgling company, Osborne Computers, from obscurity to dominance in the portable-computer market. On September 13, 1983, the company filed for bankruptcy, laying off 900 workers. Atari, the video games manufacturer, laid off 3,000 employees when its games fell in popular favor. Mattel, an Atari competitor, cut one-third of its electronics support staff. Victor Technologies laid off 950 people. Vector Graphics slashed its payroll by one-quarter.

What the computer industry really looks like, from the prospective worker's point of view, is

a field employing a few well-paid people to design and oversee operations, a few poorly paid non-unionized factory workers who watch the assembly line more than move it, and a small number of shipping and clerical workers, also poorly paid, who insure that the products get to the right locations.

Even people who understand[5] all this still insist that: "Someone's going to have to repair all these devices!" They point to projections in the increased percentages of people employed as computer-repair technicians. But consider what is already starting to happen with hardware and software. If something doesn't work, you can call an 800-number; someone there tells you what to do. If that doesn't help, you slip a circuit board or a floppy disk out of the machine, put it into a mailing cartridge and send it back for replacement. Because the cost of repairing the board or disk frequently exceeds the original cost of making it, what often happens is that the piece is analyzed by the company to discover what went wrong, a few commands are entered into the controlling design that oversees how these pieces are made—and the offending piece is discarded. Consider, for example, hand calculators. When I was pursuing my doctoral studies, a programmable calculator cost some $350. If it didn't perform a regression equation properly, I sent it off to be fixed. Today I can get a hand-held calculator that does everything my original one did, but costs under $10. If it breaks (e.g., coffee is spilled on its keyboard), I throw it away; to fix it would cost far more than buying a new one.

Some of the executives at Apple Computer have a good analogy of what's happening to personal computers these days. They point to what happens when people rent cars at airports: almost nobody reads the owner's manual before driving off. That's true; I've rented Nissan Sentras, Ford Galaxies, Chevrolet Chevettes and many other makes I'd never driven before and took off on my trips without even glancing at an owner's manual. This, Apple's leaders say, is what is going to happen to personal computers. What happens if there is an accident? I've seen cars bang into trees, smashing two doors on one side, but leaving the rest of the car undamaged. Result: the car is junked because it costs too much to fix it.

Adam Osborne made[6] an interesting point before his company filed for protection under bankruptcy laws. "What we're going to see," he said "is not so much computers in every room in the home and in the office as computing there." The refrigerator, for example, may come with micro-processors inside it. But you will scarcely even be aware of that fact—let alone use computer programming skills to "talk" to your refrigerator.

I think that what has misled[7] many people in special education and rehabilitation, as well as their colleagues in many other fields, is that percentages have denominators as well as numerators. It's an easy oversight to make when one reads sparkling predictions that the number of computer programmer jobs will double by 1990 and that computer-technician positions will increase 93% by the end of the century. Stop for a moment, though: how many computer repair technicians do you know?

Sure, computer programming and manufacturing jobs will increase—but **from a very small base.** Job openings in the entire computer design, manufacturing and repair field will probably average just 50,000 annually for the foreseeable future. Already, more than that number of people is enrolled in computer-related courses each semester. We're seeing in computer programming what we recently saw in journalism and in law. After the highly publicized Watergate scandal, hordes of people went to journalism and law schools. Today, a lot of those people are driving cabs.

What **will** be important for handicapped youth and adults to learn is how to be comfortable around computers—and how to interpret the data they produce. In the future, millions of handicapped workers will use computers—but to do things they're trained to do, such as financial management, sales, writing, product design and the like. They will use computers as tools to do other jobs.

Liberal Arts as a Dinosaur

Rehabilitation and special education people tell me they actively discourage clients and students from pursuing liberal-arts courses of study. Their reasoning: it's hard for History and English majors to get jobs. In fact, some rehabilitation practitioners go so far as to say that their agency will not pay for college education in such fields. I think that's a major mistake.

Look at what happened when Osborne Computers laid off 900 people. The low-skilled operators and technicians were gone in just a few minutes. Most found it hard to get another

computer-industry job. They knew how to do one job and only one job. By contrast, the managers, financial people, and others who worked with people rather than machines often got job offers within days of Osborne's filing for bankruptcy.

The major characteristics of our times, probably, is change. People need a broad background, including exposure to history, sociology, and psychology in order to cope well with constant change. Technical training rarely gives them such flexibility. Another major characteristic of work, paradoxically in view of the rapid acceleration of machines in every phase of our lives, is people orientation. Good workers know how to relate well to co-workers and to customers. They know how to motivate people to perform and to buy. These are exactly the skills that the liberal arts teach.

Careers today are made, not in one field, but in several. My father worked for the same company, in the same job, for several decades. I've held five jobs in fifteen years, and four of those jobs didn't even exist before I took them. Narrow training in a highly specialized technical field is more likely to lead to frustration than is preparation that is applicable to many different fields of work.

Finally, the real growth in jobs in the future, in fact in the present as well, is not so much in operating a piece of machinery as in taking advantage of what it does. Financial managers make ten to fifteen times as much as do data-entry technicians, and for good reasons: the ability to interpret raw data, to make sense of numbers, to relate findings to factors beyond the data set, are the capabilities highly prized in our society. One needs a feeling for history, a sensitivity to economics, an understanding of how people behave, in order to analyze and interpret information. Again, these are skills that the liberal arts foster.

Often, I talk to business people who tell me they prefer to hire broadly educated, as opposed to narrowly trained, people. Each company has its own way of doing things, its own procedures, its own philosophy. The corporations I've worked most closely with prefer to train people "our way" rather than hire fully trained people off the street.

Let's not become so mesmerized by the allure of high technology that we lose sight of the fact that machines are to serve us. A computer, some day, will be much like a typewriter—and where is the "glamour" in typewriter manufacturing, sales and repair?

Let's not restrict the future of disabled students and clients by misleading and mistraining them. Particularly for the more promising individuals, those with real potential for high-powered careers; let's offer them the broad-based "education" they will need and not just the narrow "training" they might use on their first entry-level job—and never again.

These days there's a lot of "doom and gloom" talk about the future of work in our country. If you listen carefully, you'll find that the real horror stories are about the fates of low-skilled, semi-skilled and unskilled workers, especially those who had high-paying unionized jobs in heavy manufacturing. Their future is not bright, which leads us to the next topic—reindustrialization.

"Reindustrialization" of America

Labor economists Bennett Harrison[9] of Massachusetts Institute of Technology, Barry Bluestone of Boston College, and many others have been quite vocal in recent years in calling for a "reindustrialization" in our country. Mr. Harrison, who is a respected Marxist economist is much more concerned about the labor side of the equation than the capital side.

Harrison and Bluestone studied the New England economy of the 1970's, concentrating upon the traditional manufacturing operations and the newer high-tech companies springing up along Route 128 outside Boston. What they found frightened them. Of some 675,000 textile workers who lost jobs when mills closed all over New England, only 3% found jobs in Boston's high-tech companies (such as Wang and Prime Computer). Five times more of these people got jobs in places like McDonalds, than those who moved to better-paying slots with high-tech companies. Most moved down and the jobs they got were lower-paying, less secure, and less unionized than the ones they left.

The economists were very angry at the capitalists responsible for all this. The textile factory owners shifted the vast bulk of the jobs overseas in order to cut manufacturing costs. This, Harrison and Bluestone argued, deprived Americans of good jobs, handing them to foreigners. And, the fast-growing high-tech company owners, who controlled the emerging jobs, kept unions out of their factories, thus depriving workers of a livable wage.

Harrison and Bluestone decried "the missing middle": we're moving into an economy characterized by well-paid planners and managers on the one hand and poorly paid blue-collar workers on the other. The middle-class, low-educated but high-paid factory worker of the past is, it seems, gone forever. That's probably right—the Detroit assembly line operator, who earned more than many college professors, likely will never again see such financial security and job safety.

The AFL-CIO[10] hailed Harrison and Bluestone's study. Complaining that robots and other computerized devices would displace hundreds of thousands of factory workers every year for a decade to come, the labor association called for protectionist trade legislation, Federal laws requiring that American workers be employed to make American products using made-in-America components, and similar measures. There was a lot of talk about creating a "new industrial policy," one that would have the Federal government handing out subsidies to keep jeopardized "smokestack" industries afloat, erecting high barriers and stiff tariffs to prevent foreigh competitors from taking the market from the domestic manufacturers, and guaranteeing the termination-threatened American factory worker free job-retraining if and when that became necessary

The organization's Evolution of Work Committee suggested that the AFL-CIO position itself squarely in opposition to rapid computerization in the workplace. Recoiling in horror before figures showing that each robot and other computer device used in a factory would deprive three workers of their jobs, and calling upon Harrison and Bluestone to demonstrate that those people probably couldn't find equally well-paying jobs elsewhere, the committee rushed to the cause of the low-educated factory worker whose future was threatened. That is understandable because such workers are the very people who belong to AFL-CIO affiliated unions. Just as predictably, business owners jumped all over the Harrison and Bluestone study.

James Cook,[11] executive editor of **Forbes** magazine, for example, pointed out that protectionist legislation just wouldn't work. Factory assembly operations very soon will be almost completely automated in many industries, he wrote in a guest column syndicated to the nation's newspapers. Computers will not only design products, manufacture their parts and assemble these components, but will repair the devices as well. Indeed, in some of the more advanced factories, that is happening already; we've seen what IBM did in Boca Raton. When such automation spreads to other fields within the next several years, most of the remaining high-pay low-skill jobs will be eliminated. The people displaced will be Taiwan and Singapore workers; already, fully half of all employees of the entire semiconductor industry, for example, work in the Far East. The factories then will be moved back to this country, but there will be very few jobs in those factories to be done by human workers. Why, then, Cook says, argue about jobs that aren't going to be there anyway?

Cook acknowledges that, according to the Congressional Budget Office, micro-electronic technology might result in the loss of three million American jobs by 1990, or 15% (one in every six) of the manufacturing labor force, and seven million (one-third) by the year 2000. But he points out that if business owners were to do what the Evolution of Work Committee asks, and keep high-paid low skill workers on the job, competitors who use computers to make more products faster, cheaper and more effectively would drive the labor-intensive companies out of business, thus ending the jobs anyway.

As for putting up trade barriers, as the AFL-CIO wants done, Cook observes that other countries would respond in kind. Unable to sell our products abroad, we would lose jobs here.

It's a classic case of "the eye of the beholder." Cook and Harrison both looked at Route 128 and Silicon Valley. Harrison, whose orientation was toward protecting proletarian labor, was disgusted; Cook, who starts from the capitalist's point of view, was delighted.

What does all this have to do with employment of handicapped adults? Consider for a moment in what kinds of jobs people with disabilities often are placed. In my experience, it's been in "things" work as much as in "people" or "ideas" jobs. And, of course, workers in direct-labor, high-risk jobs are precisely those workers who tend to become disabled through industrial accidents. Many rehabilitation and special-education agency people side with Harrison and Bluestone in rooting for a return to an industrial economy. I think they're wrong and are doing a disservice to students and clients by promising employment that doesn't call for advanced education or highly skilled capabilities.

We're just not going to have a reindustrialization in this country. Cook is right—it would be economic suicide. Peter Drucker points out, correctly I believe, that the kinds of jobs that highly-unionized workers have done in the past won't be done in this country in the future. They'll be done in developing nations where costs of manufacturing and of labor are lower, or they'll be automated.

The answer isn't to keep training disabled people to do low-skilled manufacturing jobs. Rather, it's to train them, or as the case may be, re-train them for services employment and for jobs requiring higher levels of education.

"The Happy Beneficiary"

Rehabilitation personnel coast-to-coast bemoan the fact that they can't seem to motivate adults with disabilities to seek job-training and to pursue employment. When I point out that the 1980 Social Security Amendments removed most of the so-called "work disincentives" from Social Security Disability Insurance and Supplemental Security Income program rules, they just shrug: "I can't even get them to listen, Frank. They're making better deals for themselves off the taxpayers than they think they can make on payrolls."

What's happened so far[12] is understandable. Until 1980, many literally could not afford to look for work. As soon as they could afford to try, there were no jobs to be had—the nation was in a recession so deep some people called it a depression. Then, as the recession started lifting, the Federal Government went into a crackdown on disability beneficiaries so severe that several Senators used terms like "subhuman" and "callous" to describe it. The Social Security Administration's goal was clear—to wipe off the rolls the people who didn't belong there. In three short years, more than one-half million people were dumped from the rolls.

The naive observer in far-away Washington, DC, might be excused for thinking that so drastic a measure surely would convince people on disability insurance rolls to depart those rolls for jobs. But that's not what happened. When you talk with people who are getting benefits, you learn that they're almost desperate not to show any capacity for work, lest the slightest "gainful activity" be turned against them. Besides, many had been on the rolls so long that they had grown accustomed to the benefits and they felt "entitled" to them. When the crackdown came, the response often was to engage lawyers to fight Washington rather than counselors to find jobs. There's a shopworn schoolyard expression that covers this: "better the devil you don't know than the devil you do."

There is little doubt that the Social Security Administration went too far. I remember being there, lobbying for the removal of work disincentives, every step of the way as the bill was fashioned, and the provision calling for a review attracted only passing attention. In fact, I'd clearly forgotten about it by March 1981, when the crackdown began. I know that many of the people who were removed from the rolls indisputably belong on them because they really can't work full-time in any jobs for which they would qualify. Yet the review continued, unabated, for three solid years. There were only a few scattered complaints from the people in a position to halt the review: the Senators and Congressmen on the key authorizing committees, despite a cascade of mail, phone calls and even personal visits from outraged beneficiaries and their advocates.

Just as I was beginning to think that the Congress would allow the Administration to continue on its barbarous path, along came some "white knights" to the rescue of the SSDI beneficiaries. These saviors said all the right things: that Congress never had intended so brutal a crackdown (true); that the Social Security Administration was ignoring court orders to cease and desist (true); that many people on the rolls really can't work (true); and that the Administration had the burden to show that a beneficiary had improved in health status and ability to work since joining the rolls in order to justify removal (probably true).

But who were these wonderful "white knights"? None other than our old, well-known, so-called friends, the National Governors' Association (NGA). The self-same people who complained when then-HEW Secretary, Joseph Califano, issued the tough new section 504 regulations. The very folks who paraded up Capitol Hill to defeat reauthorization of P.L. 94-142, the Education for All Handicapped Children Act. This same group of people, the NGA, had also beseiged then-President Carter to veto what became P.L. 95-602, the Rehabilitation Act Amendments of 1980. (Many governors disagreed with the NGA on these stands.)

What had caused the NGA's sudden turn of heart? It's true that politics makes strange bedfellows, and I was glad to learn that they had finally seen the light, but I was curious nonetheless. I think all of us should have been, because it turns out that the vast bulk of the unfortunate souls who were being cut off from disability benefits by the Federal government were landing on state-supported welfare rolls. The governor's association was upset with the crackdown because the states were having to foot the bill for it.

The lesson in all this seems clear: the cost of supporting tens of millions of disabled people on dependency rolls is becoming so high that no one wants to pay for it—not the Fed, not the states. This soon is going to be a case that turns the expression, "better the devil you don't know than the devil you do," on its head because staying on public aid rolls is going to become awfully uncomfortable. "Reviews" will come much more often; they'll be more and more rigid; and benefits will start to fall behind cost-of-living increases, meaning that people on the rolls will get worse and worse off as time goes by.

Meanwhile, as suggested earlier, I think, eventually, that government will wake up to the fact that it costs relatively little to train and equip people with accommodation aids and devices so they can work.

In August 1983,[13] President Reagan signed into law a bill authorizing payments of up to $10,000 to companies that hired previously unemployed veterans (including disabled veterans) in order to defray training and other employment-related costs. This is more than three times the amount provided by the targeted jobs tax credit, for which the same people were eligible, yet it remains a good deal for the Federal Government.

The fact is that each additional one percent of unemployment costs the Treasury between $25- and $30-billion in lost tax revenues and in larger payments to the unemployed. When the jobless individuals are also disabled, the cost to government is even higher, because of eligibility for long-term Federal (not just state) support through SSDI and SSI.

William C. Norris,[14] chairman of Control Data Corporation, is asking for a 50% payroll contribution from government for every disadvantaged person hired by business. Norris, probably one of the most social-conscious chief executives in the nation, points out that a tax credit of $15,000 per year per person trained and put on the job rolls—a credit that would last for the first ten full years that person kept working—would **still** save government money. As much as I respect Norris, I believe this overstates the case; but only slightly, because Norris is on the right track.

What all of this means is that, in the not-too-distant future, business and government will combine to provide a real opportunity to work for many people with disabilities. I believe these people will grab at the chance!

A choice between an increasingly threatened tenure on a shrinking public-aid roll and an attractive opportunity to get and keep a good job, is no dilemma at all. Those of us who work know that we get social contact, peer respect, monetary compensation, a challenge, a source of pride, and a feeling of real achievement from our work. None of that comes from being idle.

Chapter Three

Pocket Marketing

For the balance[15] of this decade, the supply of people willing to work will exceed the number of jobs—that's the bad news. The good news is that "pockets" of opportunity exist even in a labor-surplus market, and that demography is on the side of people who want jobs.

The working-age population[16] (people aged 16-64) is growing at a rate of about 100,000 persons per month. As the economy brightens, many people who temporarily dropped out of the labor force during the recent recession will be drawn back in. To illustrate, in 1976, just after the 1974-75 recession, the economy generated a large 2.9 million jobs, but 2.4 million people entered the labor market.

This means that throughout the decade of the 1980s, rehabilitation will have to seek out pockets of opportunity within the labor market, fields in which there are labor shortages, in order to give persons with disabilities important "first job" opportunities. There are now, and will continue to be, such pockets.

Our economy is by now accustomed to the influx of young people into the labor market; the baby-boom generation has been with us so long that we find it hard to imagine life without a constantly larger group of young people pressing for jobs. Yet that is exactly what is in store for us. For the first time in 15 years, the number of people entering the labor market for their first time will start declining. The last of the baby boomers, those born in 1964, will turn 24 in 1988; almost all of them will be in the labor force by that year. Thereafter, the number of new entrants will drop—and keep dropping for the foreseeable future.

In 1980,[17] for example, 14.7% of working-age persons were between 20 and 24 years of age; by 1985, that proportion will drop to 13.8%. By 1990, there will be a real drop—to 11.6%, according to the Bureau of Labor Statistics.

Meanwhile, the labor force absorbed in the 1960's and 1970's, huge numbers of women, members of minority groups, and others who had not participated as actively in the workplace in previous years.

According to Lawrence Olson[18] of Sage Associates, Inc., in Washington, the labor force grew at a strong pace of 2.6% per year in the 1970's but will increase at only half that, or 1.3%, late in the 1980s. By the time 1990 rolls around, it will be growing more slowly than will the supply of jobs. Eventually, says management philosopher Peter Drucker, employers will be begging for workers.

All of this means that, in aggregrate terms, rehabilitation placements should become easier to make as we approach the end of the century. Of course, there will be peaks and valleys of employment growth that will make some years more "placement-easy" than others. But the overall trend is toward more job opportunities. That's one reason for optimism.

A second is that the labor market is, of course, not one big monolith but a collection of much smaller markets. Some of these already have pockets of labor shortages. Some will become increasingly labor-short as the decade proceeds, even as others become labor-heavy. Finding the areas in which competition is weak, or "pocket marketing" to coin a term, is one challenge facing rehabilitation in the 1980's and 1990's.

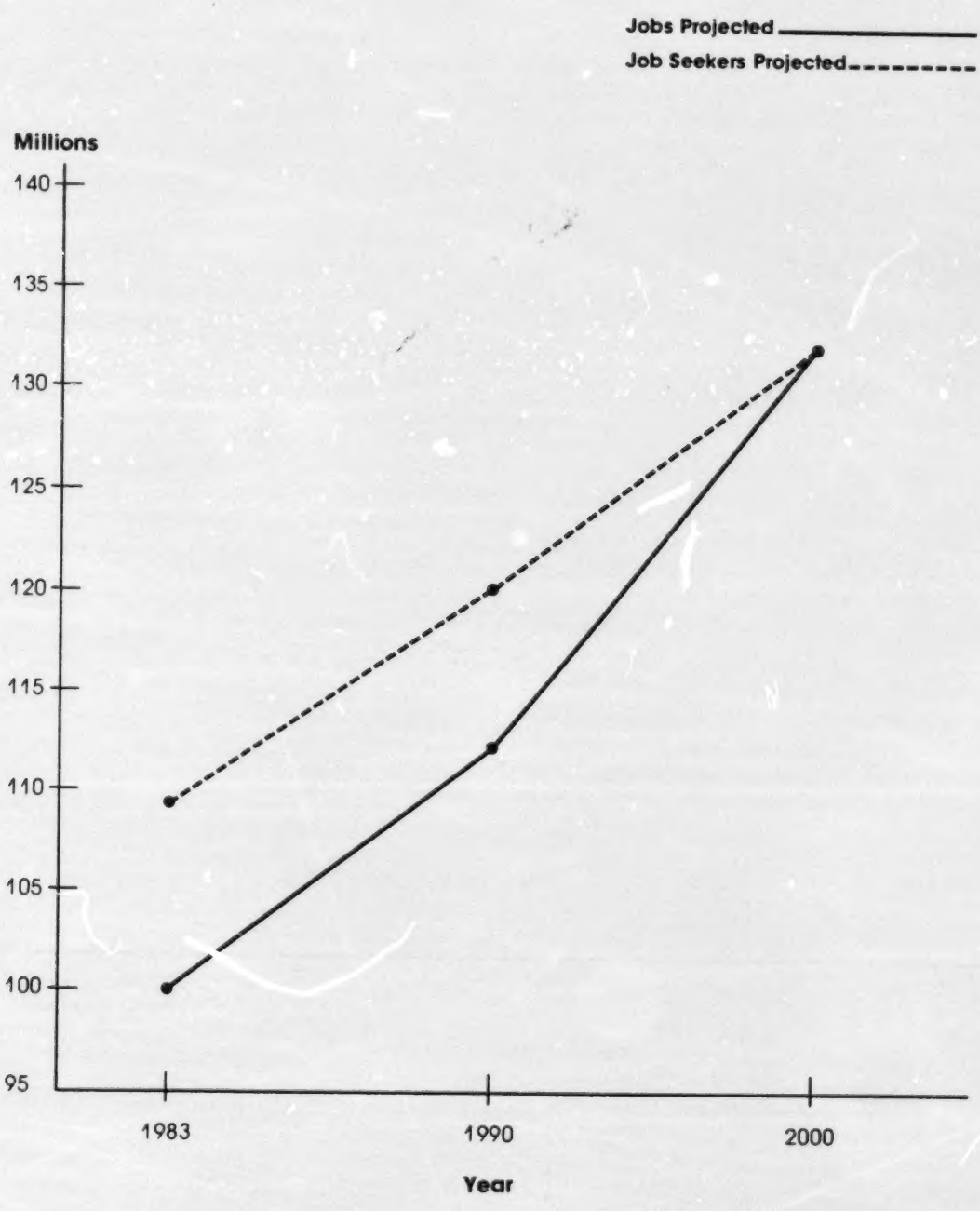
A third reason for optimism is that despite keen competition, some attractive jobs are going to open increasingly wide for persons with physical and sensory disabilities. That is, some of the most desirable jobs in America are going to be easier for severely disabled people to get than they are now, thanks largely to the remarkable progress of advanced technology in providing "reasonable accommodation" aids and devices that are most likely to be purchased by employers hiring exactly these coveted workers. Finding such employers, and bringing to them qualified disabled job seekers, is another aspect of "pocket marketing."

The Changing Labor Market

The fact that the job market[19] is altering very greatly comes as no surprise to most people in rehabilitation and special education. They know that of the 25 million new jobs created between the years 1970 and 1982, only 2.3 million were in manufacturing. In fact, manufacturing lost three million jobs during the slow-growth years, 1978 to 1982. Virtually all of the new jobs have been in what is called "the service sector," which is an often misunderstood term.

Figure 1

Projected Jobs and Job Seekers, Selected Years



If the economy generates an average of two million new jobs annually, as it did 1970-1982, and if the labor supply grows at a 1.3% rate as Lawrence Olson expects, the gap between the number of jobs and the number of job seekers will narrow in the coming years, brightening job prospects for traditionally hard-to-place job seekers.

The service sector includes, not only the well-known fast-food minimum wage jobs so highly visible across this country, but also high-paying jobs in financial management, law, electronic data processing, affirmative action, environmental control, and astronautics.

Today, half of all American jobs are information jobs, and by the year 2000, that figure will rise to seven out of ten. One basic reason for such explosive growth: more and more American families are two-income families where both husband and wife work. Because they do, and because they are career-oriented, they demand personal services such as financial planning, leisure-time products and services, help in filing their tax returns, and the like—things they used to do for themselves.

All of this is fairly obvious to most workers in rehabilitation and special education. But what may not be so self-evident is that the same forces are working to decentralize the workplace. When both husband and wife work, relocation to take attractive new jobs becomes less likely. Enter another factor: the growing capability of information technology. Today, there's little reason for hundreds or thousands of corporate workers to occupy contiguous offices in a central location; instead, thanks to distributed data processing, electronic mail, teleconferencing and the like, it is possible for workers to use satellite offices closer to their homes—or even work from the home if they wish. Employers like decentralized offices because they find that productivity rises as workers do not have to fight rush-hour traffic, commute long distances, and exhaust themselves in non-work tasks.

As Peters and Waterman point out in their book **In Search of Excellence,** the popular "economies of scale" ideas may just be very wrong. People work better, and are happier, when they are recognized. In a huge office building or factory, they are much more anonymous and may also be less productive and less content.

These factors are opening up[20] employment opportunities for severely disabled and sensory disabled individuals. Because, with advanced technologies, the inability to commute in rush hours need no longer prevent someone with a health or physical condition from working. The same technologies permit people who are deaf to work using computer terminals, communicating with co-workers and supervisors through electronic mail rather than in person. Blind people, of course, benefit from the capacity of modern computers to "talk" using synthesized speech.

An industrial age places a premium upon physical and sensory wholeness. An information age economy places a higher premium upon the ability to translate, transform and use information; machines can do the necessary lifting, listening and seeing.

Peter Drucker and others point out that education levels among persons entering the labor force for the first time are rising, and will continue to rise, particularly as women put off marriage and childbearing to equip themselves for careers. The highly publicized failures of "smokestack" industries to cope with Japanese competitors send warning signals to parents: if John and Jane leave school early, they won't be able to make a living for themselves. Writing in a guest column in the **Wall Street Journal,** Drucker points out that high-school graduates sometimes could command salaries at Detroit assembly plants and similar industries that exceeded the salaries their brothers and sisters could expect after five years of experience **and** an MBA from a prestigious business school. Given that fact, parental pressure to complete college sometimes was less than it otherwise would have been. Today, states Drucker, the chances that high-school graduates can do better than highly educated peers are diminishing fast, and soon will be gone altogether. Hence, rising parental pressure for post-secondary education.

Cook, in his article, takes this one step further: if large numbers of labor-market entrants sport high education levels, many blue-collar manufacturing and service jobs could go begging.

In **Soles:[21] The Fast Track for Women,** Gonnie McClung Siegel comments that increased intra-industry competition in both slow-growing and fast-paced fields means that ever-larger proportions of available capital will be given over to marketing. Apple Computer, for example, hired away from Pepsico a senior marketing executive, rather than a computer engineer, to head its executive team. Commodore and other computer firms are taking similar steps. Yet, as **The New York Times** has noted in several recent "Careers" supplements to its Sunday edition, the number of people trained both in sales and in computers is far below that needed by the nation's information companies today, let alone for the balance of the decade.

A **Business Week**[22] special report on the divestiture of the Bell System notes that with the telecommunications field breaking wide open, competition will be intense for the balance of the decade. Here, again, marketing and sales opportunities should be many, particularly for people trained in both areas.

The nation's population is growing older with each passing year. The over-65 cohort will double in size by 2030; already, people in this segment of the population represent the country's fastest-growing group of people. Another rapid-pace field of work is home health care. Even before the[23] October 1, 1983, starting date for Federally supported "prospective reimbursement" policies, home health care grew very fast. From just $78-million in 1969, the field mushroomed to more than $1.2-billion in sales in 1983.

"Prospective reimbursement" itself represents the cutting edge of a large labor-short pocket market. Starting last October, Medicare paid hospitals a flat rate, set in advance, for each of 467 categories of illness. Category 115, for example, covers reimbursement fees for cardiac pacemakers, while category 117 sets the levels for their replacements. By transferring a patient from the hospital to the home shortly after an operation, hospital administrators can spend less using home health care agencies to deliver follow-up services than it would cost to keep the patients in hospitals. Result: costs fall below the pre-set reimbursement level, and the hospital makes money.

This suggests that opportunities in home health care may outdistance, by far, growth in the overall labor market for the next several decades. Companies such as ARA Services, Johnson and Johnson, Quality Care, Superior Care, Health Extension Services, Healthdyne, and American Hosptial Supply may employ large numbers of service workers to deliver at-home medical and related care to older individuals and people recovering from severe accidents and illnesses, including many who are newly disabled.

These firms are among the leaders in investing in sophisticated productivity-raising equipment. ARA Services, for example, has spent millions in recent years to make its service operations more cost-effecive. Such measures can only increase the pace of home health care delivery as an alternative to prolonged hospitalization.

Their fellow service[24] industries are becoming nervous about the coming decline in the number of young people in the late 1980's and 1990's, which is being caused by the aging of the baby-boom generation. The reason is that fast-food, laundry and similar general-service operations rely heavily upon teen-aged workers, who receive only entry-level, minimum-wage pay. This is another reason for the great increase, since 1980, in spending on capital equipment among service firms. As a result of all that investment, the firms are disproving the experts, who until very recently were discounting the possibility of productivity growth in the service sector. Stephen S. Roach of Morgan Stanley & Co. estimates that service producers have invested as much as $50-billion annually in the past two or three years—sharply up from less that $20-billion in 1975. During the same period, employment in the service sector, he says, grew by one-quarter to just under 60 million of the nation's 100 million workers.

According to Charles Jonscher[25] of Massachusetts Institute of Technology, each $1,000 invested in technology per service worker yields twice as much productivity as does the same per-employee investment in manufacturing firms. The reason, Jonscher says, is that service workers, being on the whole low-educated, benefit tremendously from interacting with the technology; the machines are educational for them. Instead of doing the same simple tasks thousands of times each day (example: reading the label on a magazine, making a note of it, and then reading the next label) service workers are learning how to use advanced technologies to do their jobs better. The result is that they become more comfortable with technology, broaden their experiences, and equip themselves for upward mobility to more demanding occupations. Without such equipment, such upward mobility was almost nonexistent. Meanwhile, they work more productively. The company, and the worker, gain both short- and long-term.

This suggests something very few people have seen, to date, in selected service industries. Employers making high investments in equipment and those worried about the drop-off in young workers during the balance of this decade, may exert more effort to keep and train employees. ARA Services, Inc., headquartered in Philadelphia, sets an example of this. Such companies have helped to change the very negative image that fast-food and other operations have as employers. They may also provide, for alert rehabilitation personnel, new

pockets of employment in which to place persons with disabilities.*

Since the early 1970's, a major characteristic of our economy has been increased financial complexity. At one time, people took home a paycheck, spent much of it, placed some into a passbook savings account and thought little more about financial planning. Today, the options available to the astute investor are dazzling in their diversity—and risk. Hence the dizzying rise of investment and other kinds of financial planning specialties. To date, these high-powered money managers have concentrated upon that "darling" of the advertising media, the "upwardly mobile career-oriented mover and shaker," that is, people aged 25-44 who are well-educated, hold professional white-collar jobs, and watch their money very carefully.

Almost totally overlooked is the massive 25-million strong population of older Americans. These people not only have solid equity (most own their own homes), but also receive substantial amounts of money in pension checks, Social Security benefits, and other forms of payment, particularly dividends on stocks and interest payments on savings. This is the very generation of Americans that is least sophisticated financially because they grew up in an era of stable dollars, low interest rates, and the like. Helping them plan and invest their money represents yet another pocket of opportunity.

In the past five[27] to ten years in particular, the growth of entrepreneurs has been startling. During that time, the nation has suffered several recessions and large corporations have laid off large numbers of workers, particularly middle managers. Millions of people have started their own businesses. Such incorporated companies provide employment opportunities for people who have lost jobs in larger corporations. And, because of the structure of the tax laws, owning a corporation offers some important tax benefits, among them the opportunity to plan for a secure future through pension plans and the chance to provide employment to members of the owner's family. Federal regulations encourage people to start small businesses, and many agencies set aside a certain proportion of contract and grant monies specifically for bidding by small business. Entrepreneurship represents yet another pocket of opportunity.

* Early in 1984, Burger King ran newspaper ads designed to encourage workers at McDonalds and other firms to "switch to Burger King for better working conditions and better benefits."

Chapter Four

Five Areas of Opportunity

In the years 1984-1990, and beyond, persons with severe physical, sensory and mental disabilities seem most likely to find and keep jobs in five broad areas of employment. The five are:

1. **General Services.** This category is intentionally a broad one. It includes direct services to members of the general public and to employers. Examples: secretarial and related office work, hotel/motel and convention services, home management services, and other services designed to do jobs for busy people—jobs which people once did for themselves.
2. **Special Services.** This grouping includes jobs in which workers provide direct services and other assistance (including devices and equipment) to persons with special needs, such as older citizens, people with chronic health conditions, and disabled individuals.
3. **Sales.** This category is self-explanatory.
4. **Information Services.** In this group, experts and others who are highly qualified offer guidance and advice to corporate and individual clients, including persons with special needs. Examples: lawyer, CPA, stock analyst, personal-affairs manager.
5. **Entrepreneurship.** People start their own businesses to take advantage of two factors: their own special expertise, and market demand that is not being met by others. Examples are legion; entrepreneurs do just about every imaginable kind of job.

Many disabled people will, of course, work in other kinds of jobs. Still, these five areas appear to represent the most interesting opportunities because labor-market, labor-force, worker-characteristic, and accommodation-aid factors converge to create particularly favorable conditions. The areas are described in some detail in this chapter. Chapter 5, Personal Characteristics, takes up the characteristics needed by people who are interested in working in these kinds of occupations.

General Services

Opportunities in the "general services" area are very attractive for many persons with disabilities for a number of reasons.

First, most of these[28] jobs require little in the way of previous education and training because they usually feature employer-provided training. In fact, many employers insist upon doing their own training of general services workers, and discourage highly educated people from entering such jobs. Given that many disabled people have education-attainment levels lower than the average for the general public (see, for example **Demography and Disability**), this characteristic of the area may be an appealing one for many disabled individuals.

Second, demand[29] for such jobs generally is slack compared to the demand in many other fields of work. As women pursue careers and not just stop-gap jobs, for example, many eschew secretarial and general service positions; however, many men shrink away from them since these jobs have traditionally been known as "women's jobs." Because pay levels have tended to be low, particularly at entry level, better-educated and more ambitious people decline to take such positions. General service jobs usually attract young people which indicates that the decline in the number of baby-boomers will create more openings than have been available in the recent past.

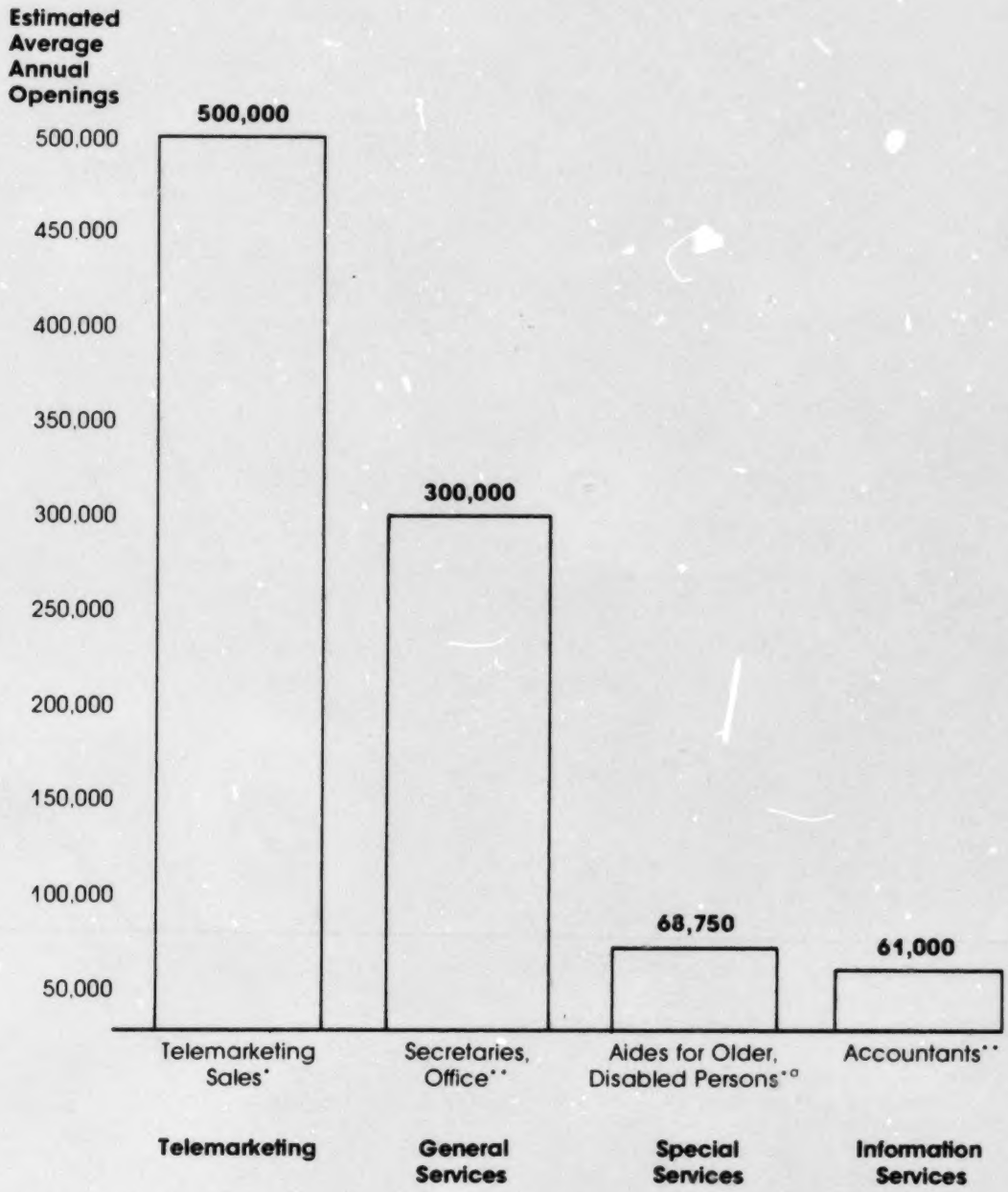
Third, the number of[30] openings in this area is projected to grow very rapidly until the end of the century. Factors we have already discussed—the growth of the two-income family, the "farming out" from the home of traditional homemaker tasks, the growing career orientation of many workers, and the explosion of information technologies—will support this growth. Secretarial openings, for example, are projected at some 300,000 annually for the balance of the decade and probably will continue to maintain that pace to the year 2000. Private household workers (some 45,000 openings annually to 1990), cashiers (about 180,000 yearly), bookkeepers (some 96,000 per year), and waiters (approximately 77,000 annually) will all show large numbers of new openings throughout the decade.

Fourth, particularly[31] for employees of fairly large corporations, upward mobility is quite possible because many such companies offer employees training at the firm's cost. The employers are offering paid training because they are worried about the availability of approriate workers in the years to come.

Figure 2

Projected Growth in Four Areas: New Jobs

(Entrepreneurial job growth projections not available. Category not reported separately)



* Forecasting International, 1983 (to 2000)

** Occupational Outlook Quarterly, 1983 (to 1990)

a: Combines geriatric aides, gerontological aides, technicians for handicapped and technical aides for handicapped.

Fifth, investment in technology to aid such workers is surprisingly sharp. The use of personal computers and personal work stations in the office, for example, is growing exponentially. Such devices are easy for many physically disabled people to use and, increasingly, can speak to blind workers. Within the next five to ten years, some such machines will also "hear" for deaf workers. ARA Services recently invested in an optical character recognition (OCR) device to speed up its magazine distribution operation; OCR technology is the heart of the Kurzweil Reading Machine. It is possible that companies using OCR devices may attach peripherals enabling people who cannot see to use these machines.

All of these factors—the lower level of competition, the employer-training characteristic, the fast pace of growth and large number of new openings, the potential in some firms for upward mobility, and the investment in technology—make many general service jobs attractive for persons with disabilities.

The challenge for rehabilitation will be to identify those firms that are willing to train entry-level workers for better positions and those that are willing to allocate for accommodation aids and devices. Special educators, vocational-technical teachers, and rehabilitation counselors should look carefully for such pockets within the general service field.

The general population, for reasons I have discussed briefly, will likely shun such opportunities, believing that all such jobs are low-pay, dead-end, unrewarding positions. This popular belief, until now largely true, also means heavy turnover in those jobs. Some service sector employers, for example, have to fill jobs four or five times annually, so not only will there be many new openings, but each position may open several times each year.

Special Services

Opportunities in the "special services" area will explode in number at least until the year 2030, because the older population and the disabled population both will grow in size by leaps and bounds during this period. The move away from institutions and toward community care, as in independent living and home health care services, for example, adds to the growth in this realm of employment. And because many disabled people have first-hand experience with limitations of activity, as well as with effective and inexpensive solutions to common problems of daily living, they can call upon their own personal life experiences to help meet the needs of other people with special needs.

Technology is providing one major reason for explosive growth in the special services area. Reasonable accommodation aids and devices are increasing in number—and effectiveness—even as they are dropping in price.

For an indication of the great growth possible in this area, consider the projections made by Forecasting International of Arlington, Virginia, for **U.S. News and World Report** in the May 9, 1983, special issue on "What the Next 50 Years Will Bring." FI identified 23 occupations expected to be fastest-growing by the year 2000. Almost half, or 10, of them were in special services:

Field	New Jobs Created
Geriatric social workers	600,000
Emergency medical technicians	375,000
Gerontological aides	300,000
Technical aides for handicapped persons	120,000
Respiratory therapists	100,000
Biomedical/electronic technicians	90,000
Technicians for handicapped persons	80,000
Bionic-transplant technicians	65,000
Implant technicians	50,000
Dialysis technicians	30,000

Geriatric social workers and gerontological aides will, of course, find work with older persons, many of whom will live in their own homes rather than in institutions. Emergency medical technicians, respiratory therapists, and dialysis technicians likely will work in home health care agencies and in outpatient departments of major hospitals as well as in

hospitals, intermediate medical care facilities, nursing homes, etc. Technical aides[32] for handicapped persons and technicians for handicapped persons will be the people who know about and understand how to use aids and devices for disabled people; some, of course, will make such devices and repair them. Some will work for home health care agencices (such as Johnson and Johnson, Superior Care) that specialize in providing services for older and chronically ill individuals in the home.

Biomedical/electronic technicians and implant technicians will assist doctors in implanting into the body artificial hearing (e.g., ear implants) and other devices, as well as assisting patients to adjust to using the new aids. Bionic transplant technicians will help surgeons in similar ways. These technicians will find employment because engineering and medicine are joining hands to prolong life and replace failing body functions.

The special services field, then, includes much that is traditionally "social work" in orientation, much that is "technological" in nature, and much that is "medical" in essence. As a general rule, special services workers will be trained in helping older and disabled people, as well as those who are chronically ill, to care for themselves outside of institutions.

Sales

Increased domestic and international competition in business creates large numbers of sales positions. This is one reason for singling out this area as a pocket of opportunity. A second, and very important reason is that sales, traditionally, is a point of entry from which fast upward mobility is possible. In IBM,[33] for example, almost all of the top executives started as salespersons. Disabled people seeking long-term careers will find sales a good place to start. Third, success in sales is demonstrable; a disabled job applicant can prove to an employer very quickly that he or she is a capable worker, overcoming employer resistance to hiring handicapped people.

The most[34] interesting reason for highlighting sales as a pocket of opportunity for disabled people is that telemarketing is increasingly becoming "the" way sales is conducted. It is much less costly, companies find, to have 800-numbers, WATS lines and the like, than it is to send salespeople to visit with customers. Accordingly, company after company is installing expensive, highly sophisticated technology at the fingertips of the sales worker, who calls to the screen information about the "prospect" and fills orders by keyboarding. These same devices can provide, with fairly minor adjustments, "one key" capabilities so that severely physically handicapped people can operate them quickly and well; "synthesized speech" so blind people can use them; and, in time, "voice recognition" so deaf people can operate them.

Because of the corporate concern for providing "the right image," sales has traditionally been a field in which many employers did not believe that handicapped workers were appropriate. But with telemarketing, customers do not meet, or see, the sales person. Too, sales was traditionally an occupation requiring long hours on the road; anyone who has ever heard stories about "the traveling salesman and the farmer's daughter" will recognize this immediately. But today, that is becoming less and less true.

Forecasting International projected, for **U.S. News & World Report,** that "sales (telemarketing)" jobs would lead all other categories in the number of new positions created by the year 2000—a staggering eight million new jobs.

Earnings potential in sales jobs is virtually unlimited; it is determined by the worker's own effort and success because most sales jobs are based upon commissions.

Rehabilitation's challenge will be to show corporations how people with different kinds of disabilities can perform sales jobs, to find out what technology is available to assist them to do those tasks, and to give the job seeker a chance.

A note of warning: rehabilitation placement specialists should be aware that straight-commission jobs may be more "contractor" than "employee" in nature, according to the courts. For this reason, equal-employment opportunity legislation may not always apply. Take, for example, an item appearing in **U.S. News & World Report**'s August 29, 1983, issue (pg. 69). The item observes that a U.S. appeals court has ruled that the Age Discrimination in Employment Act does not protect sales workers who receive commissions but not company benefits, and who pay their own expenses. The court stated that these employment terms make the salesworkers "independent contractors" for purposes of employment legislation coverage. When placing a disabled person in a sales job, rehabilitation should take care to

ensure that the terms are covered by sections 402 and 503, that is, ensure that the person is an employee and not a contractor.

Information Services

As our society becomes increasingly complex, individuals and corporations need solid information upon which they can base decisions. The problem is not so much one of a lack of data; rather often it is one of too much information. Experts are called upon to sort out, interpret and explain the data which are available. Finance is a good example. What you can do with discretionary monies is almost endless; for advice and guidance, many people turn to financial planners, bankers and brokerage houses. Law is another example; tax law, in particular, is extremely complex and the recommendations of a knowledgeable and experienced lawyer are highly prized by individuals and firms alike.

Persons with disabilities will be interested to learn that growth in these kinds of fields has been so great that firms in these areas are recruiting—even as firms in many other fields are cutting back. In Boston,[35] for example, Bradford Trust had so desperate a need for more clerks and managers that it entered into a lengthy and large agreement with the area CETA (Comprehensive Employment and Training Act, now replaced by the Job Partnership Training Act) to bring into the firm previously unemployed individuals with an interest in finance. Bradford vice president, Jay Begley, explains: "The traditional way has been to bring people in at the entry level and then promote them as they learn the business. Now, financial services are expanding too fast to do that."

Connie Chen, president[36] of a Manhattan financial services firm, says people in her field who have seven to ten years of experience earn more than $75,000 a year in Manhattan and some other large cities. In Brooklyn, Michael Dickman has fashioned a highly successful tax law practice that specializes in meeting the needs of low-income clients, many of whom are disabled, as is Dickman. The International Association[37] for Financial Planners reports that membership has grown 150% in the past four years alone, despite the recession (or perhaps, in part, because of it). Accounting is another growing field. Beginners can start at $25,000 and go as high as the low six figures.

People with disabilities who have an interest in financial planning and tax law may find that practices specializing in help for older and disabled persons may fill a gap left by competitors who are zeroing in on the 25-44 year-old, fast-track managerial group. Persons who receive some governmental benefits are particularly in need of advice about how to supplement aid checks without jeopardizing eligibility for the programs.

Other kinds of information services are also highly valued in today's society. People who know about unusual leisure-time activities, people who can arrange an array of personal services such as home and landscaping aid, and specialists who can locate facts that few people know, (such as what governmental program could be tapped to finance a particular venture) may sell their services in return for a good living.

Information services require not only considerable high-level education but also experience. The key to attracting and keeping clients, whether corporate or individual, seems to be the ability to inspire trust. With so much information around, and so many people advising so many different alternatives, firms and private citizens with funds to invest or lives to plan need someone upon whom they can rely. The ability to attract new clients and keep them translates into high pay in many firms—and it can offer the opportunity to strike out on your own, taking the clients with you.

Entrepreneurship

Someone starting his or her own business needs to know the particular field of work very well—and have the kinds of contacts that will get the company off to a running start. That's why many information managers eventually strike out on their own once they've mastered the area and earned the personal loyalty of a following of clients.

People with disabilities who know an area and can attract enough clients to get started may find entrepreneurship attractive. One does not have to rely upon the fairness of employers; the entrepreneur is his or her own boss, and earnings are not limited by corporate-imposed ceilings.

There is, however, another aspect of the picture. Although the entrepreneur does not have

to sell him or herself to a boss, it is necessary to sell to financial backers. Getting venture capital can be more difficult than getting a salaried job. Fortunately, the Small[38] Business Administration (SBA) in Washington offers information and assistance to people wanting to start their own companies. Loans at low interest rates are also available. If the would-be entrepreneur can endure the SBA's sometime-slowness and maze of red tape, support can be obtained. Also, as observed earlier, set-asides in Federal contract and grant programs are often available specifically for bidding by small businesses.

The entrepreneur must be prepared to be all things for all people. As the owner of a new business, the entrepreneur often must be chief executive, accountant, salesperson, clerk, typist and data-entry technican all at once. "You must live the job," says almost every entrepreneur who has survived in business.

Just as there is no rigid cap on earnings potential, so too there is no rigid floor. In fact, there's no floor at all. An entrepreneur might go a year or more with no salary whatsoever, and end the year owing money—not making it.

Rehabilitation's challenge for disabled individuals interested in forming their own companies is to help these persons assess individual strengths/weaknesses, identify areas of business to enter, find and attract start-up funds, and secure the assistance—particularly legal and accounting—that will be needed.

Depsite all the downside risks, entrepreneurship sometimes is exactly what is needed. There is undeniable challenge, freedom, and opportunity. If what the person is selling is unique and needed, remarkable success may be had. For example, Stephen Wozniak's business started in a small garage; today that same business, Apple Computer, is neck-and-neck with IBM in the huge and astonishingly fast-growing personal computer business.

A Ladder of Opportunity

Persons with disabilities, like other people, want not just a job but the chance to have a meaningful and rewarding career. The five broad areas of work outlined in this chapter offer such a chance. One might begin in general services while still a college student and, depending upon personal interests, branch out into information or special services, either of which may serve as a springboard to entrepreneurship. An individual may pick one area and remain in it for several decades. Not everyone has the inner resources and self-starter mentality to succeed as an entrepreneur. Similarly, not everyone wants the pressure attendant upon becoming and remaining successful in information services. Nor is everyone so gregarious as to enjoy working day by day with people who have a need for personal services and for companionship.

The next chapter discusses personal characteristics needed for success in each of the five fields. As we are seeing throughout this book, thanks largely to technological breakthroughs, what matters—and matters significantly—in tomorrow's workplace, for people disabilities, is not so much the disability as the ability—and the personality.

Chapter Five

Personal Characteristics

The challenge for rehabilitation, vocational-technical education, and special education is to locate pockets of opportunity appropriate for persons likely to succeed in them and to offer these persons the needed training. Training—and retraining—are critical.

The jobs for which a given student or client should be prepared likely will vary sharply by personal characteristics—and less sharply by disability.

Others in the field of rehabilitation are better positioned than I to define which personality characteristics mesh most closely with success in various occupations. In what follows, I have drawn upon my own limited experience "in the field," rather than empirical research, to suggest some characteristics that different kinds of jobs seem to require. Quite likely, research will advance our understanding beyond the limited ideas expressed here.

People/Ideas/Things

Relative people/ideas/things orientation is one variable that appears worth investigating. Special services work, in particular, seems to require a high level of people orientation as does sales work. Information services, by contrast, appear to feature a high level of ideas orientation.

Entrepreneurship, not surprisingly, varies depending upon the kind of business. But the most successful business owners will be high on both ideas and people orientation; if their businesses make or repair devices, things orientation probably is needed as well.

Inner vs. Other-Directedness

Successful information services[39] and entrepreneurial workers likely will be highly inner-directed. Reliance upon others for validation of ideas, organization of work activity, etc. are not characteristic of successful people in information services, although a willingness to listen certainly is.

General services[40] workers, and to a lesser extent, sales and special services workers need some degree of other-directedness. When one works closely with customers, and the objective is to do what the customer wants done, a high level of sensitivity to the customer's spoken or unspoken desires is important. Often, the worker has no choice. A general service worker, for example, must do what he or she is told, the way he or she is told, and in the order in which he or she is told to do it. Some people respond well to such close supervision while others rebel against it.

Tolerance for Routine

People in general and special services in particular will probably need a high degree of tolerance for repetition and routine. Desire to experiment and/or boredom with repeated tasks will probably not be rewarded.

By contrast, information workers and entrepreneurs seem to be people who thrive on constant change, lack of a set routine, and absence of a rigid schedule of activities. Sales workers, too, often need variation and challenge rather than routine.

Consider the contrast between a stock broker and an automobile assembly plant worker. What the stock broker does in any five-minute period depends upon a variety of factors; each five-minute period may be characterized by sharply different activities. The lockstep of the assembly, by contrast, enforces a routine that cannot be deviated from without severe consequences. Some people can take such rigidity in their work lives; others, though, cannot.

Educational Attainment

Another important personal characteristic is the level of education achieved. People with high levels of education will likely become very frustrated with general services work; for this reason, employers in such fields often set maximum rather than minimum educational qualifications (although almost all require a high-school diploma).

An information services worker, to view the other extreme, often is better-educated and more highly qualified in his or her line of work than is his or her manager and both know it. In

hospitals, for example, administrators routinely take a back seat to surgeons. Much the same kind of thing happens in law firms and financial management organizations, as when administrators yield to the specialized knowledge of account executives.

Assertiveness

A related characteristic[41] differentiating successful performers in different fields is relative degree of aggressiveness in asserting one's own views. Assertiveness that is accepted, even expected, in an entrepreneur would never be tolerated in a general services worker, and may conflict with a client/patient's needs in special services. Salespeople, almost by definition, must be assertive. Information workers will achieve to their full potential only by attracting attention to their successes through assertive behavior, although not usually by aggressiveness toward clients.

Desire for Companionship

Another factor relates to the degree to which a worker wants to be friends with co-workers. This is not the same as other-directedness. General service workers, for example, often bowl together.

Sales people usually like to be with customers and clients, but show much lower levels of need for companionship toward competing sales people. Entrepreneurs often cannot afford to become too close to people who work for them; special services workers, too, will usually be more effective if they maintain some distance from clients and patients. Both, however, may have a high need for companionship with peers.

Need for Communication Technologies

Persons whose disabilities[42] are communication in nature or impact may find that information services employers are more likely than are others to offer the devices they need to do their work. The reason is that such employers value expertise. These organizations, such as tax law firms and financial management companies, also have relatively high revenues, making the costs of such aids more affordable.

Entrepreneurs, of course, may write off as a business expense virtually any needed accommodation. There is no such thing as an "unreasonable" accommodation for the owner of the firm, because without him or her performing at peak efficiency there would not be a business to speak of.

General and special service workers may encounter much more resistance to their needs for communication devices, although office workers in highly automated organizations are less likely than are customer service clerks at low-tech firms to see such resistance.

Characteristics by Area

General Services. These jobs require repeated performance of a standard set of fairly low-level tasks. Productivity is measured in terms of speed with which work is performed and attention to detail. Customers and employers expect good work quickly. Supervision, accordingly, is tight; often the first-line manager works alongside the service workers, doing much of the work him or herself.

Disabled persons likely to be successful in general services probably will have the following characteristics:

High in—tolerance for repetition; need for neatness, cleanliness; need for companionship with co-workers; attention to routine tasks.

Low in—compensation expectations; upward-mobility orientation; need for autonomy at work; level of educational attainment; need for high technology in communication.

Employers often prefer to train general services workers themselves. McDonalds, Marriott and other such employers have extensive on-the-job training programs designed to develop the skills needed in the work. These employers discourage highly educated applicants, knowing that the low levels of worker autonomy and compensation would result in levels of turnover that are even higher than the already very high levels they experience.

Many workers in general services jobs are young and often they are in their first full-time

positions. Many are single, with low personal and familial expenses; others are "displaced homemakers" re-entering the labor market after many years of childrearing. For these reasons, general service workers tend to be fairly unsophisticated with respect to work. They need ongoing supervision—and know they will benefit from it. Persons with disabilities placed into general services jobs would probably share many of these characteristics and enjoy being around others with these traits.

General services workers often socialize with their co-workers off the job. Indeed, many employers sponsor softball and bowling leagues comprised of such workers, both to satisfy the employees' companionship needs and to build company loyalty.

Special Services. These jobs require the performance of personal-assistance tasks for people who have special needs. Accordingly, special service workers often have a need to care for others. The very qualities that mark success in school teachers, nurses and social workers are generally important in special services. Performance is usually measured in timely completion of routine tasks, personal neatness and courtesy, promptness, and customer/client satisfaction. Supervision tends to be fairly tight, although managers usually do not accompany the workers throughout the day. Extensive reporting is required, however, and it is through such documentation that evaluations are made.

Disabled persons who may enjoy and do well in special services jobs likely will have these characteristics:

High in—tolerance for repitition; need for neatness, cleanliness; need to care for others; attention to routine tasks.

Moderate in—need for companionship; need for autonomy at work; level of educational attainment; compensation expectations.

Low in—need for technology in communication; upward mobility expectations.

There are exceptions. Some special services work includes invention and maintenance of equipment. High "things orientation" is needed here, together with considerable personal experience or acquaintance with the needs for which the equipment is intended. Engineering consultant Ralf Hotchkiss of Oakland, California, for example, combines an understanding of devices with a keen appreciation for the need to design equipment to meet actual, not just imagined, personal needs.

One common failing in the home health care area is that service workers who do not understand people with special needs do what is not needed while failing to do things that are needed. There is a powerful "doctor-patient" orientation in some of these services which is counterproductive to the independence of the patient or client. Thus the "need to care for others" characteristic must be tempered with an understanding that the objective is to help people help themselves, not to do it for them.

Some of the work is not at all routine. Technicians, for example, may encounter great variety in mixing and matching different aids and devices to meet particular needs of individuals. So, persons low in tolerance for repetition might find satisfaction in some aspects of special services.

There is, of course, some overlap in this area with information services and with entrepreneurship. People with special needs do not just have special needs; they also have general needs, like financial advice, that experts in such areas may provide.

Sales. Sales workers are often on their own. Indeed, many work on commission rather than on salary.

Today's sales workers need a keen understanding of the product or service they are selling, to whom it applies, and how it applies. They must also understand the needs of their individual customers.

IBM, for example, often places advertising showing a pillow case. The advertising test makes the point that security is what customers want when they buy a computer. The fact that IBM understands that, and some other firms do not, in part accounts for the remarkable success of Big Blue (IBM) over the years. Sales people at ARA Services, Inc. stress efficiency and effectiveness—we can do it for you for less, and take it off your mind.

Sales work, too, is highly people oriented. People buy products and services. Sales must

be made to individual people, even when the customer is a large corporation. So, sensitivity to people is requisite for success in sales. A pleasing personality and a willingness to listen, rather than to talk, helps. A sense of timing in knowing when to press for a sale and when to back off, too, is important.

Sales work is also very competitive and it is very self-directed. There are no set hours, no set routines, aside from fairly flexible guidelines as to what is expected in the way of numbers of prospects to be contacted each month.

Sales people will likely be characterized:

High in—compensation expectation; inner-directedness; need for autonomy; attention to detail; upward-mobility expectations.

Moderate in—educational attainment; need for companionship; tolerance for repitition; need for high technology in communication.

Low in—need for close supervision.

As indicated earlier, sales is rapidly becoming telemarketing. Sophisticated, expensive technology faces the worker, who works mostly with telephones. Information about the customer, recent purchases, and known needs and desires flash on a screen as the worker places or receives a call. Thus, physical mobility is not a major concern. Vision loss can be compensated for, and at some point within the next five or ten years, hearing loss may, to some extent, also be accommodated.

Yet, sales continues to be an activity that is carried out in more ways than by telephone. Sales managers remain conditioned to the traditional in-person sales appearance and strategy. So, expect some resistance to the idea of disabled persons doing sales work, especially from managers who are not sensitive to abilities in disabled people.

Information Services. This realm is one in which a high level of personal expertise is basically what the employer buys when hiring workers—that, and personal contacts. Information workers, almost as much as sales workers, are expected to bring in new clients and new revenue from existing clients. It can be a very high-powered, high-pressure operation, but the rewards can also be great. True autonomy, rapid upward mobility, very high levels of compensation, and real prestige in the community are some of the rewards.

These jobs require interpretation of information. They call upon judgment, high-level training and experience. Productivity is measured in income generated from corporate or individual clients willing to pay for such guidance. Supervision is light; performance is evident from client satisfaction, peer judgments of quality, and, often, documents or other information products.

Disabled individuals successful in such fields are likely to be:

High in—educational attainment; inner-directedness; experience with particular information; understanding of clients' needs; upward-mobility orientation; compensation expectations.

Low in—need for companionship; tolerance for routine; need for supervision.

Success in such fields often comes in one or both of two ways. First, top-performers survive weeding-out processes in which less successful co-workers are dropped from the firm's payroll. Those who make it can expect to receive six-figure salaries, in many organizations. Second, experts with considerable experience and a wide reputation often set up their own consulting companies; that is, they take the next step and become entrepreneurs.

Employers rarely train such workers in more than "our way" of doing things, and such training is more appropriately called "orientation." Usually, the employee begins work with, at most, a few days' exposure to particular forms, special computer commands, and the firm's client roster. The employer assumes that formal training occured in graduate school (law, public administration, accounting, business, medicine, etc.) and that the worker has previous employment experience in a similar company.

Information service workers are very sophisticated with respect to the field in which they work. They are experts in their chosen areas. Often, they have expended considerable sums of money and sizeable amounts of time on their education; then, too, most are married with substantial personal and familial expenses. They have a strong need for high levels of

compensation and for upward mobility, which would bring even higher levels of compensation. They also tend to be extremely inner-directed, trusting their own judgments over those of all others.

Entrepreneurship. This is, in many ways, the most demanding of the occupational areas considered in this book. It is demanding because a business owner, particularly in the beginning, must devote him or herself to the business more than ten hours a day, often six days a week. It is demanding because so many talents, skills and kinds of knowledge are called upon—the ability to sell, the knowledge of the market, the ability to hire and supervise people to get the most from them, and familiarity with accounting and finance. Also, it is demanding because the entrepreneur must maintain faith in his or her ideas even in the face of repeated rejection. But, for those who make it, the rewards match the demands.

Disabled people likely to "make it" will be:

High in—compensation expectations; knowledge of a particular field or area; inner-directedness; attention to detail; "people" and "ideas" orientation ("things" orientation, too, for many); assertiveness.

Moderate in—tolerance for routine; need for communication technologies.

Low in—need for companionship; need for supervision.

The entrepreneur must be capable of drafting a business plan that is free of "holes" and shows exactly what will be done, when, how, and where the money will come from. He or she must be able to sell that plan to bankers and private investors. And then he or she must carry out the plan. There is no question that starting a business is a high-risk operation; some nine out of ten new companies fail within the first five years of operation.

Ray Kurzweil is an example of a successful entrepreneur. He believed in himself, even when almost everyone to whom he turned ridiculed his idea. He became a high-powered salesman, convincing many doubters. He had a high "things" orientation, which he needed in order to develop the technology. He put in the long hours, days and weeks necessary to see his idea from concept to reality.

Ray Kurzweil had[43] an idea that optical character recognition could be developed to the point that it could "read" for blind people. Over a period of many years, he and others tested the technology. They attracted support from government and from private sources. They involved consumers, including representatives from the National Federation of the Blind. Kurzweil's long struggle proved successful: the machine is a "hit," and Xerox Corporation acquired the company, infusing it with capital to continue to develop and diversify.

A disabled individual who perceives a similar market need must know how to meet that need, and have the determination to see the work through to a successful conclusion. As noted, the rewards are great.

Chapter Six

Making It Happen

Is it really possible for substantial numbers of severely disabled persons to achieve success in private employment in the fast-growing fields that are highlighted in this book? I don't just think it is possible; I'm convinced that it is probable. In fact, I will be very surprised if it doesn't happen.

To make it happen will require cooperation between disabled people themselves, service agencies (such as rehabilitation and special education), other governmental agencies, and employers. This chapter briefly outlines the kinds of steps that seem to be needed.

Disabled People

Without question, the major initiative has to come from people with disabilities—they have to want to work. They need to be willing to invest in their own futures, through education and through employment experience, in order to reach the heights of which they are capable.

The whole concept of "independent living" finds its greatest expression when disabled people work. Need accessible housing? With a good job, you can buy your own home and modify it to meet your particular needs. Need accessible transportation? You can afford your own. Need accommodation aids and devices? You can get them by qualifying for a job which requires such assistance; or by charging the costs off to your own business. Need medical insurance? Your employer will provide group plans; or, as an entrepreneur, you can design your own plans.

As **Demography and Disability** shows, disabled people who seek and get full-time year-round jobs tend to do very well. It can be done, and often is, but only by those who try. The same book illustrates that although Federal and State aid is available to people who don't work, the support is barely subsistence-level. In most cases the average "income" from all sources among persons with disabilities of working age in 1980 was about $4,000.

Consider the possibilities in work. Sales people often earn $40,000 or more; tax-law and financial-planning people can take home more that double that in larger cities, and 150% of that amount in some areas. Special services workers can earn more than classroom teachers, rehabilitation counselors and others in traditional human service agencies, particularly when they work for home health care and other community-service, profit-making companies. General services work pays less, but many secretaries earn in the $20,000-$30,000 range.

Best of all disabled people now have a fighting chance at these kinds of jobs. Sections 402 (for disabled veterans), 503 (for disabled civilians in private employment), and 504 (for disabled civilians and veterans in government-supported organizations) have been on the books for at least seven years and have been upheld in the courts. Demographic trends indicate that within a short time it will be much easier to get jobs than it has been for almost two decades. High technology is capable of doing things that disabilities used to preclude. And for fiscal policy reasons, government and business will soon, I believe, get serious about moving disabled people from aid rolls to payrolls.

Service Agencies

As suggested in this book, special education and rehabilitation counselors should search for "pockets" of opportunity in the labor market, identify those disabled students and clients who have the personal and educational characteristics most suitable for those kinds of jobs, and help bring employers and qualified applicants together. Convincing disabled persons, on the one hand, and employers on the other, to "take a chance" may be one of their biggest roles.

For years, rehabilitation has given more "lip service" than actual "sweat of the brow" to job development and placement services. As **The Business-Rehabilitation Partnership** suggests, it is time to concentrate many more resources upon jobs for disabled persons. Proven techniques are available which will help to do that. Among other things, counselors should bring to the attention of employers the positive experiences of such firms as duPont, AT&T, IBM and ARA Services. They should tell employers about new, low-cost, high-impact technologies and should provide the "bridge" services that will follow-up on placements to make sure they are successful.

Other Government Agencies

I believe that P.L. 98-77, the Emergency Jobs Training Act for Veterans, provides a precedent that we should extend to benefit disabled civilians. The Act provides up to $10,000 per previously unemployed veteran hired, to help defray the employer's training and other costs. Although this is more than triple the amount offered by the Targeted Jobs Tax Credit program, which offers up to $3,000 for first-year pay, it still represents a good deal for government. As Control Data Corporation chairman Norris observes, even higher levels of tax credits and other allowances would be in government's interests.

We need to look, too, at a tax credit for accommodations aids and devices. While the cost of such devices is falling, many employers still hesitate to spend money on special equipment. I have seen employers who run billion-dollar businesses balk at purchasing $800 aids for disabled applicants. It doesn't make sense, but it happens. A tax credit for the full amount of the device would help because it would exceed the investment credit available for any equipment purchase. Such a full credit would stimulate employment of the more severely disabled persons who need such aids in order to work.

We need, not just lip-service implementation, but real enforcement of sections 402, 503 and 504, together with the Age Discrimination in Employment Act (ADEA). As **Demography and Disability** illustrates, most people with disabilities are over 50 years of age; ADEA protects persons aged 40-70.

There are two recently expired provisions that we need to have reinstated. A tax deduction for businesses removing architectural barriers from their premises in order to make the facilities accessible to disabled employees and customers, was in effect until December 31, 1982. As I write, efforts are being made to bring the deduction back. It's worth doing. Perhaps more important is continuing, even making permanent, the 1980 "work disincentive" allowances incorporated into Social Security legislation.

These two provisions allowed disabled beneficiaries to take a chance on employment. If they lost their jobs because the companies moved out of town, or if they found themselves unable to continue working for some other reason, they could return immediately to the aid rolls, with no need to wait two years to re-qualify for medical coverage under Medicare. It's true that not many disabled people took advantage of this provision in the years 1980-1983, but this probably was due to the severity of the recession, the newness of the provision, and continuing distrust of Social Security Administration officials by many people with disabilities. Let's continue the provision and expand it. Let's assure a disabled person that for the first year of employment, the medical coverage will continue as a "second dollar" package that will pay whatever medical expenses the employer's health insurance does not.

Also, I strongly favor bonuses for delayed retirement. The present system—which actually rewards retirement at 62 or 65 and penalizes later retirement—acts powerfully to ease out of the labor force many persons who become disabled while working. It is too easy for an employer to offer to pay a supplement equal to the anticipated early-retirement Social Security benefit (80% of the full retirement benefit) because the employer only has to pay this supplement for a few years. Thus, employers early-retire people as young as 55, particularly when someone becomes disabled, and often when the person remains able-bodied. In fact, today, the majority of workers retire before they reach 65 and the trend is toward ever-earlier retirement.

If, on the other hand, we were to reward later retirement, making it more attractive to employees to keep working, they would be more likely to resist disability leave and early retirement. **Demography and Disability** shows that one-quarter of all 55-64 year-old Americans report a disability; a Census Bureau report on older Americans, released in September 1983, demonstrates that 80% of persons 55 and over report their health to be "good" or "excellent." That's not a contradiction—for example: the writer of this book is both severely disabled and healthy at the same time. The point is that if we help older people keep working, we will be doing a big favor for large numbers of disabled individuals.

The change must start with government, in the Social Security program. Business is following government's lead in this area.

Employers

Employers expect and, I believe, deserve authoritative information about laws and

regulations, reasonable accommodation aids and devices, and the capabilities of disabled job-seekers. Offered such information and support, together with tax-expenditure incentives such as tax credits for devices and direct payments for job training, employers will likely become much more amenable to overcoming their historical reluctance to believe that "hiring handicapped people is good business."

In particular, it is vital that rehabilitation agencies help business to understand that, often, when an employee becomes disabled it is not necessary to take that person of the payroll and place him or her on long-term disability leave or early retirement. Indeed it can be counterproductive for the business.

We must also realize that it is just as necessary to get that word to the now-disabled employee, who may feel that it is no longer possible for him or her to work. For, in the end, it always comes back to the motivation of persons with disabilities to overcome those restrictions and to take control, once again, of their own lives.

Control Data Corporation knows that. The managers of its innovative "Homework" program have told me of countless instances in which an employee had an accident (e.g., an automobile wreck). The company sent a homework manager to the hospital room as soon as the employee regained consciousness. The manager's pitch: we're bringing you back to work; we want you; and here's how we're going to help you start working again. The manager didn't leave until the employee was convinced that a return to work would succeed. The result is a return-to-work program that is, in my judgment, the best in the nation.

The Bottom Line

How many disabled persons would get jobs if these return-to-work, late retirement incentive, and other measures were undertaken on a national basis? The answer, probably, is twice as many as are placed into jobs each year now. We can double the placement rate before the decade is out.

Remember, these steps would supplement the basic special education and rehabilitation programs we already have. The steps proposed in this book would provide to students and clients, on the one hand, and to employers, on the other, incentives that make education and rehabilitation investments more cost-effective. With these "clinchers" available, employer and job seeker alike would probably be more motivated. The $5,000 investment that rehabilitation often makes in a client, for example, too frequently produces a closure that is short of competitive employment because employers aren't willing to hire or the client is not persistent in attempts to find jobs.

Most accommodation costs are fairly modest. To provide an accommodation tax credit, for example, likely wouldn't cost the U.S. Treasury more than $30-million annually in tax expenditures (e.g., foregone corporate tax revenues). Yet, because the vast majority of accommodation aids and devices cost under $250, we could help tip the scales for as many as 120,000 disabled people each year.

Resurrecting the barrier-removal tax deduction would not result in tax expenditures greater than those in the years the program was in effect. Surely no more than $50-million annually in foregone corporate income taxes. Yet if 15,000 companies took advantage of the deduction, and each hired just one disabled person, we could put into placement, before 1990, as many as 90,000 people. Tens of thousands more would be able to continue working after becoming disabled because facility inaccessibility would no longer make continued work impossible.

Continuing the medical coverage for newly employed disabled persons who leave Social Security Disability Insurance or Supplemental Security Income for the first year of employment would not be expensive either. Because most employers offer health and medical insurance plans which pay as much as 80% (sometimes even more) of the costs incurred in doctor visits and hospital stays, the balance to be picked up as "second dollar" expenditures by the Federal government would be quite modest. Recall, too, that these persons, by leaving aid rolls for payrolls, no longer qualify for the benefits they had been receiving as dependents on SSDI or SSI.

Enforcement of sections 402 and 503, as well as the Age Discrimination in Employment Act would not be costly. Department of Labor officials concede that for every enforcement dollar spent, the U.S. Treasury gets back many times over the investment in taxes paid by the now-employed worker. It also saves unemployment benefits, SSDI, SSI and related outlays.

Extending the P.L. 98-77 provision for up to $10,000 to an employer who hires a previously unemployed disabled person, would be similarly cost-effective. The law in effect now applies only to certain veterans, and is authorized at $150-million a year for two years. If we put into effect the same level of expenditure on behalf of disabled persons, at least 30,000 would be helped to find jobs within the first two years. The taxes paid on their wages (FICA taxes and federal income taxes), together with what the Treasury would save in benefits, would wipe out the program's cost in the very first year of implementation. This is true because costs to maintain disabled people on aid rolls average as much as $8,000 annually in direct benefit payments, Medicare/Medicaid, food stamps, housing subsidies, and the like.

I'm convinced that rewarding people for delayed retirement would be a boon for government. More people working, and therefore, paying FICA taxes, would result in less people receiving Social Security benefits. Because of the increase in the number of workers, more money would flow into Social Security and the persons remaining on Social Security would enjoy a much more stable, secure retirement. Norway sets an example of delayed-retirement rewards. There, late retirees are rewarded with a 9% increase in benefits for each year they continue working between the ages of 67 and 70.

The proposals I have discussed are indeed modest, yet their impact could be tremendous. I can see a near future in which disabled students in schools and colleges, as well as disabled clients in rehabilitation programs, would be much more highly motivated to qualify for and seek jobs than many now are—because they would know that employers are willing to give them a chance. I can see a near future in which people on SSDI or SSI rolls would compare benefit checks in their mailboxes with payroll checks in their peers' boxes, and conclude that it is better to be working. And, I can see a near future in which people who become disabled while working will keep working—with their employers' blessings.

It can be done. Let's do it.

Footnotes

Chapter One: Into the Breach

[1] In **The Baby Boom Generation and the Economy,** Russell makes the case that the baby-boom generation's miseries at work (tough competition, little upward mobility, etc.) are a function, not of the generations huge size as is popularly believed, but of other, more general economic factors. There is a lively controversy over whether or not she is right.

Chapter Two: What is Not Going to Happen

[2] If a qualified rehabilitation client and his or her counselor come up with a valid individual written rehabilitation program (IWRP), the fact that the program calls for liberal arts or academic schooling should in no way affect the willingness of the agency to support the client's education.

[3] "Trouble in Computer Land," **Newsweek.**

[4] It's not merely a matter of capital. Shelf space in computer stores is limited. Managerial decisions can be fatal, as some of Osborne Computers' seem to have been: they announced an advanced version of the popular portable, which depressed sales of existing units, then were unable to produce the promised machine on a timely basis.

[5] Bob Kuttner, writing in **The Atlantic Monthly** on "The Declining Middle," points out that in addition to CAD/CAM (computer assisted design/computer assisted manfacturing), something called CIM (computer integrated manufacturing) is coming, which will eliminate many CAD/CAM jobs because the engineer can use a computer to drive the manufacturing process directly, eliminating the need for additional technicians.

[6] **Personal Computing,** interviewed Osborne on this issue. The interview is an excellent source of informed judgments on what will happen in the 1990's.

[7] Robert Weinstein, writing in **Family Weekly,** on "How to Make Money in the 80's," for example, says: "Topping the list of fast-growing jobs is computer service technician, with a projected growth rate of 93.2 percent through 1990." Note that he doesn't indicate the level from which this growth will occur.

[8] Regarding desired worker characteristics, Peters and Waterman, **In Search of Excellence,** have this to say: " . . . close familiarity with the product, ability to relate well to customers, self-starter mentality, etc."

[9] Harrison & Bluestone's **The Deindustrialization of America** started a lot of talk about "the missing middle" and what it means to the American worker. For a very different perspective on this issue, read **Business Week**'s special report, "A New Era for Management."

[10] Jack Anderson's **Future File** newsletter story, "Every Assembly-Line Robot Will Eliminate Three Jobs," quotes one labor association official on the future of fired union workers: "What are they going to do? Feed each other hamburgers?"

[11] Cook's story, "There's Economic Hope in the Long Run," appeared in **Newsday.**

[12] Bob Wyrick and Patrick Owens wrote a major series of articles on Social Security Disability Insurance, "The Disability Nightmare." in **Newsday.**

[13] The bill President Reagan signed is P.L. 98-77, the Emergency Jobs Training Act for Veterans.

[14] "A Conversation with William C. Norris: Business Can Profit by Filling 'Unmet Social Needs'," **U.S. News & World Report.** For more on the same general theme, see George F. Will, "On Revenues and Ronald Reagan," **Newsweek.** Will makes the point that "in 1985 the president must hurry to restore the government's revenue base. Reagan cannot be a Reaganite after 1984." Something will have to be done to control runaway government spending on people who don't work.

Chapter Three: Pocket Marketing

[15] Russell's **The Baby Boom Generation and the Economy.**

[16] Jean A. Briggs and James Cook, "Help Wanted," **Forbes,** and "What May Keep the Jobless Rate High," **Business Week.**

[17] Howard N. Fullerton, "The 1995 Labor Force: A First Look," **Monthly Labor Review.**

[18] Briggs and Cook, "Help Wanted,"**Forbes,** and "What May Keep the Jobless Rate High," **Business Week.**

[19] Weinstein in "How to Make Money in the 80's."**Family Weekly.**

[20] Contact Homework Program Manager, HQN4CX, Control Data Corporation, P.O. Box 0, Minneapolis, MN 55440, for information about CDC's "Homework" program which allows home-based workers to use high technology to eliminate commuting and similar physical-disability problems. See "Talk to Me," **Personal Computing,** for Trudy Bell's story about synthesized speech. Also, see Robert Schadewald's story, "The Speech Gap," **Technology Illustrated.**

[21] Gonnie McClung Siegel, **Sales: The Fast Track for Women.**

[22] "Changing Phone Habits," **Business Week.**

[23] Elizabeth Wehr, "Major Changes in Medicare Payment System Approved," **Congressional Quarterly.**

[24] Pamela Sherrid, "Good News on the Productivity Front," **Forbes.**

[25] "Good News on the Productivity Front," **Forbes.** Also see "A Productivity Revolution in the Service Sector," **Business Week.**

[26] "A Productivity Revolution in the Service Sector," **Business Week.** The company's chairman, William Fishman, was a leader of the U.S. Council for International Year of Disabled Persons during 1980 and 1981, and has demonstrated a particular interest in hiring people with disabilities.

[27] **Inc.** magazine, various issues. The periodical concentrates upon small, family-owned businesses.

Chapter Four: Five Areas of Opportunity

[28] Peters and Waterman, **In Search of Excellence.**

[29] Pick up any issue of **Working Woman, Working Mother,** and the like. Almost all of the stories are geared to executive women. The editors know what their readers want. Despite Census Bureau data showing that large numbers of women remain in secretarial jobs, many if not most of these women want to move up the career ladder. The shortage of secretaries in major cities is such that employers are offering salaries higher than that of some teachers and professors to fill secretarial positions.

[30] Themla Kandel, "What People Earn," **Parade.**

[31] Companies with a commitment to promotion from within, such as AT&T and IBM, often offer corporate sponsorship of college and post-graduate education for employees.

[32] For additional information in this area, see the U.S. Congress Office of Technology Assessment's study, **Technology and Handicapped People.**

[33] "The Colossus That Works," **Time.**

[34] "Business Communications: Challenges for the '80s" and "Computer Systems and Services for Business, Industry and the Home" in **Fortune.**

[35] Steve Curwood, "They're Growing Their Own," **Boston Globe.**

[36] **U.S. News & World Report,** "Success! The Chase is Back in Style Again."

[37] **U.S. News & World Report,** "Success! The Chase is Back in Style Again."

[38] "R&D Money for the Asking," **Venture.**

Chapter Five: Personal Characteristics

[39] According to Douglas LaBier, a Washington, DC, psychoanalyst, many people find recognition in other peoples' approval—not from internal goals. In jobs requiring high inner-directedness, people may become deeply frustrated. LaBier's views were cited in the "Success!" **U.S. News & World Report** story.

[40] **In Search of Excellence** quotes Ray Kroc, McDonald's former chairman: "A well-run restaurant is like a winning baseball team, it makes the most of every crew member's talent and takes advantage of every split-second opportunity to speed up service. . . . I emphasize the importance of details. You must perfect every fundamental of your business if you expect it to perform well."

[41] Siegel in **Sales: The Fast Track for Women,** "Nobody can sell to another person without first having confidence in his or her ability to sell. . . . You must be able to assert yourself in a positive way and be aggressive enough to ask for the order."

[42] AT&T, for example, invested $25,000 per position in high-technology equipment, permitting blind persons to operate long-distance telephone switching equipment. Such investments are rare in operations such as laundromats and fast-food stores.

[43] Robert W. Mann, "From Concept to Commercial Use: A History of Aids for the Visually Impaired," in **Technology for Independent Living,** Kurzweil has also written extensively on his own work. See, for example, "The Kurzweil Reading Machine—A Technical Overview," available from the American Association for the Advancement of Science (AAAS).

References

Anderson, J. "Every Assembly-Line Robot will Eliminate Three Jobs." **Future File,** May 1983.

Bell, T. "Talk to Me." **Personal Computing,** September 1983, pp. 120-131& 203.

Briggs, J.A. and Cook, J. "Help Wanted" **Forbes,** April 25, 1983.

Briggs, J.A. and Cook, J. "What May Keep the Jobless Rate High." **Business Week,** April 25, 1983.

"Business Communications: Challenges for the 80's." **Fortune,** 1983, various issues.

"Changing Phone Habits." **Business Week,** September 1983, pp. 68-76.

"Computer Systems and Services for Business, Industry and the Home." **Fortune,** 1983, various issues.

"A Conversation with William C. Norris: Business Can Profit by Filling 'Unmet Social Needs'." **U.S. News and World Report,** January 1981.

Cook, J. "There's Economic Hope in the Long Run." **Newsday,** April 13, 1983.

Curwood, S. "They're Growing Their Own." **Boston Globe,** Oct. 11, 1983, p. 63.

"The Colussus That Works." **Time,** July 11, 1983, p. 54.

Fullerton, H. "The 1995 Labor Force: A First Look." **Monthly Labor Review,** December 1980.

Gottlieb, D. "High Technology Training Surges," **High Technology,** October 1983.

Harrison, B., and Bluestone, B. **The Deindustrialization of America.** New York: Basic Books, 1982.

Inc. magazine, various issues.

Kandel, T. "What People Earn." **Parade,** July 19, 1983, pp. 4-6.

Kuttner, R. "The Declining Middle." **Atlantic Monthly,** July 1983.

"A New Era for Management." **Business Week,** April 25, 1983.

Norris, W. **New Frontiers for Business Leadership,** Minneapolis: Dorn, 1983.

Personal Computing, May 1983, pp. 201-207.

Peters, T. and Waterman, R. **In Search of Excellence,** New York: Harper & Row, 1982.

"A Productivity Revolution in the Service Sector." **Business Week,** September 5, 1983, pp. 106-108.

"R&D Money For The Asking." **Venture,** August 1983.

Russell, L. **The Baby Boom Generation and the Economy.** Washington, DC: Brookings Institution, 1982.

Schadewalde, R. "The Speech Gap." **Technology Illustrated,** June 1983, pp. 55-59.

Sherrid, P. "Good News on the Productivity Front." **Forbes,** October 10, 1983, pp. 124-126.

Siegel, G. **Sales: The Fast Track for Women,** Macmillan, 1982.

Stein, H. "Don't Fall for Industrial Policy." **Fortune,** November 14, 1983.

Stern, V. and Redden, M. **Technology for Independent Living,** (n.d.).

"Success! The Chase is Back in Style Again." **U.S. News and World Report,** October 3, 1983, pp. 60-65.

"Trouble in Computer Land." **Newsweek,** September 26, 1983, pp. 72-86.

U.S. Congress Office of Technology, **Technology and Handicapped People.** May 1982.

Wehr, E. "Major Changes in Medicare Payment System Approved." **Congressional Quarterly,** February 26, 1983, p. 421.